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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/506,318	02/17/2000	Fumio Echigo	10873.487US01	7531

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EXAMINER

GUARRIELLO, JOHN J

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 03/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/506318

Applicant(s)

Echigo

Examiner

John Guarnie/H

Group Art Unit

1771

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-36 is/are pending in the application.
- Of the above claim(s) 13-36 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-12 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3, 4
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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DETAILED ACTION

Election/Restriction

15. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-12, drawn to nonwoven fabric , classified in class 442, subclass 327.
- II. Claims 13-36, drawn to prepreg and circuit board, classified in class 428, subclass 198.

16. The inventions are distinct, each from the other because:

17. Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate

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product is deemed to be useful as insulation for wiring products in small appliances and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

18. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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19. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

20. During a telephone conversation with Curtis Hamre on 12/7/2001 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-36 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

21. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment

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of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

22. Claims 2, 5, 7, 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, line 2, it is not clear what is encompassed by the phrase “at the intersections” since there is no reference to this phrase in claim 1. This is a lack of clear antecedent basis to claim 1.

In claim 5, it is not clear what the binder is since it appears there is more than one binder because claim 1 refers to inorganic binder and the claim 5 as stated refers to “chemical covalent siloxane bonding” which raises the issue of an organic binder.

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In claim 7, it is not clear what fibers are referred to in claim 1 since reference is made to short fibers which may not necessarily be the synthetic fibers.

In claim 12, line 2, it is not clear what is encompassed by the term "gaps", since the specification provides no specificity as to where these "gaps" are located for resin impregnation in the nonwoven fabric and they are not identified in any way in claim 1.

Claim Rejections - 35 USC § 102

23. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1),

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(2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-3, 7-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ashida et al. 6,200,706.

Ashida describes a nonwoven fabric which is produced by a wet paper making process, (see abstract; column 11, lines 15-17). Ashida describes heat resistant aramid fibers, (column 3, lines 9-35; column 7, lines 60-66). Ashida describes inorganic binders such as colloidal silica and colloidal alumina, (column 9, lines 23-26). Ashida describes fibers are 5mm or less, (column 7, lines 44-45). Ashida describes the diameter of the fiber is 5.00 denier or less, (column 9, lines 13-15). Ashida describes weight of non-woven fabric as 20 g/sq.m., (column 32, lines 31-34), encompassing claim 10. Ashida describes the thickness of the non-woven fabric about 10-100 microns, (column 9, lines 35-45), encompassing claim 11. Ashida describes the void content of the non-woven, like gaps, (column 10, lines 26-30), encompassing

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claim 12. Ashida describes the essential limitations of the claimed invention.

Claims lack novelty.

24. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 2, 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Kappeler et al. 6,214,072.

Kappeler describes a filter bag made of a filter medium with non-woven glass fibers which are fixed at crossover points (like intersections) with organic-inorganic or inorganic binders, (see abstract; column 1, lines 66-68; column 2, lines 1-5). Kappeler describes coating the glass fibers with an

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organic-inorganic or inorganic binder to effect fixation of the fibers at crossover points,(like intersections), (column 2, lines 14-18). Kappeler describes the essential limitations of the claimed invention. Claims lack novelty.

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashida et al. 6,200,706 in view of JP-11-128667.

Ashida as in paragraph # 23 above with the exception that Ashida is silent about glass fibers .

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JP'667 teaches the equivalence of colloidal silica and water glass as inorganic binders, (see abstract).


It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the colloidal silica inorganic binder of Ashida with the waterglass fibers of JP'667 since they are art recognized equivalents, motivated with the expectation that there would be an improvement in the properties of the nonwoven material for the dielectric properties for a more reliable circuit board. Moreover, although siloxane bonding coating is not stated it would be obvious to one of ordinary skill in the art to use siloxane bonding for its ability for moisture reduction for the fibers in the circuit board utility.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Guarriello whose telephone number is (703) 308-3209. The examiner can normally be reached on Monday to Friday from 8 am to 4 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris, can be reached on (703) 308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-5408.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

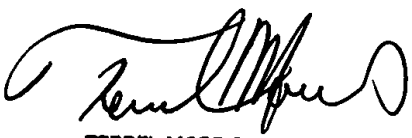

John J. Guarriello:gj

Patent Examiner

February 19, 2002

March 6, 2002

March 10, 2002


TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700